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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,371	11/26/2001	Robert F. Cruickshank III	24359-012	1817

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EXAMINER
PATEL, DHAIRYA A

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/995,371	CRUICKSHANK ET AL.
	Examiner	**Art Unit**	
	Dhairya A. Patel	2151	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 December 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>27-40</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>27-40</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication filed on 12/9/2005.

2. This amendment has carefully considered and entered.

3. Claims 1-26 are cancelled. Claims 27-40 are newly added claims and are

presented for examination.

Response to arguments

. Applicant's arguments are deemed moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application
by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 27,29-32,34,36-38,40 are rejected under 35 U.S.C. 102(e) as being

anticipated by Grabelsky et al. U.S. Patent # 6,678,250 (hereinafter Grabelsky).

As per claim 27, Grabelsky teaches a system for use with a broadband network, the system comprising:

-a network-metrics apparatus configured to obtain performance metrics for at least a portion of the broadband network (column 8 lines 37-65); and

The reference teaches collecting network performance data (network metrics) at the network cluster monitoring sites (portion of broadband network) (column 8 lines 37-65).

-a data processing apparatus coupled to the network-metrics apparatus and configured to combine performance metrics obtained by the network-metrics apparatus for lower topological levels of the network (Fig. 3 element "Level_0) into a metric of a network performance for higher topological level of the network (Fig. 4 element "Level_1"), the higher topological level comprising the lower topological levels (column 9 lines 6-37).

The reference teaches network monitor configured to monitor and collect network performance data of Level_0 (lower topological level of the network) and then network monitor in Level_1 configured to include network performance data of Level_0 in the Level_1 cluster (higher topological level), therefore making Level_1 cluster (higher topological level) comprising Level_0 cluster (lower topological level).

As per claim 29, Grabelsky teaches the system of claim 27, further comprising:

-a data-processing apparatus configured to combine, separately, (1) performance metrics obtained by the network-metrics apparatus for lower topological levels and

related to network capacity and/or traffic into a metric of network capacity and/or traffic

for a higher topological level of the network (column 12 lines 3-21), and

The reference teaches combining network performance data such as packet

delivery, packet loss (network capacity and/or traffic) of the Level_0 into Level_1 of the

network.

(2) performance metrics obtained by the metrics apparatus for lower topological

levels and related to network connectivity into a metric of network connectivity for a

higher topological level of the network (column 12 lines 3-21)(column 13 liens 6-20).

The reference teaches obtaining network performance data (performance

metrics) for level_0 related packet delivery, packet loss, jitter, round trip delay, receive

buffer length (network connectivity) and combining with level_1 network connectivity

data.

As per claim 30, Grabelsky teaches the system of claim 27, further comprising:

-a data processing apparatus coupled to the network-metrics apparatus and

configured to weight contributors to performance metrics for lower topological levels of

the network into the metric of network performance for higher topological level of the

network, the contributors weighted according to their effect on the performance metrics

(column 11 lines 46-50, lines 54-67)(column 12 lines 1-2)(column 9 lines 6-37).

As per claim 31, Grabelsky teaches the system of claim 27, further comprising:

-a data processing apparatus coupled to the network-metrics apparatus and

configured to weight the performance metrics for lower topological levels when

combining the performance metrics for lower topological levels into the performance

metric for the higher topological level, the performance metrics for lower topological

levels weighted according to at least one of (1) perceived impact on network

performance , and (2) perceived priority among performance metrics (column 12 lines 1-

21, lines 31-45)(column 11 liens 46-50, lines 54-67).

As per claim 32, Grabelsky teaches the system of claim 27, further comprising:

-a data-processing apparatus coupled to the network-metrics apparatus and

configured to normalize raw data related to the network performance to obtain the

performance metrics for lower topological levels of the network (column 12 lines 31-45).

As per claim 34, Grabelsky teaches a system for use with a broadband network,

the system comprising:

-a collector configured to collect raw data, indicative of network operation, from

the network (column 8 lines 37-65);

The reference teaches collecting network performance data (network metrics) at

the network cluster monitoring sites (portion of broadband network) (column 8 lines 37-

65).

-first metric determining means, coupled to the collector, for receiving the raw

data from the collector, manipulating the raw data to periodically determine performance

metrics for lower topological layers of the network, the performance metrics for lower

topological layers assigned one of a plurality of pre-determined performance levels, and

being associated with a time period (column 9 lines 6-37)(column 11 lines 45-67)

(column 12 lines 1-21, 31-45) ; and

The reference teaches collecting raw network performance data and

manipulating raw data into jitter and packet delay performance metrics for level_0 of the

network and the performance metrics are assigned to Phase 0 (predetermined levels)

associated with the real time analysis (associated with a time period).

-combining means, coupled to the determining means, for combining the

performance metrics for lower topological layers into performance metrics for a higher

topological network layer comprising the lower topological layers, the performance

metrics for the higher topological layer also associated with the time period, and

indicative of the higher topological layer being at one of the pre-determined

performance levels during the time period (column 9 lines 6-37)(column 11 lines 45-

67)(column 12 lines 1-21, 31-45).

As per claim 36, Grabelsky teaches the system of claim 34, further comprising:

-the first metric determining means for determining if the raw data is a root cause

or a factor in the root cause of performance degradation for lower topological layers of

the network, and to weight the raw data accordingly when forming the performance

metrics for lower topological layers of the network (column 12 lines 4-45)(column 13

lines 6-30).

As per claim 37, Grabelsky teaches the system of claim 36, further comprising:

-the first metric determining means for promoting the raw data from a factor to a

root cause when the raw data is found to have a direct correlation on network

performance (column 12 lines 4-38), and/or demoting the raw data to a factor from a

root cause when the raw data is not found to have a direct correlation on network

performance (column 12 lines 31-45).

As per claim 38, Grabelsky teaches the system of claim 34, further comprising:

-the first metric determining means and the combining means disposed in a node

connected to at least a portion of the network (column 9 lines 37-59).

The reference teaches cluster monitor which determines metrics from the data

and combines level_0 and Level_1 and level_2 metric disposed in node (Fig. 4 element

80) which is at least a portion of the network.

As per claim 40, Grabelsky teaches a method of providing quality of service to a

broadband network comprising:

-collecting raw data, indicative of network operation, from the network (column 12

lines 31-43);

-receiving the collected raw data (column 12 lines 31-43);

-manipulating the raw data to periodically determine performance metrics for

lower topological layers of the network, the performance metrics for lower topological

layers assigned one of a plurality of pre-determined performance levels, and being

associated with a time period (column 9 lines 6-49; and

-combining the performance metrics for lower topological layers into performance

metrics for a higher topological network layer comprising the lower topological layers,

the performance metrics for the higher topological layer also associated with the time

period, and indicative of the higher topological layer being at one of the pre-determined

performance levels during the time period (column 9 lines 6-49).

5. Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Bearden et al. U.S. Patent Publication # 2003/0086425 (hereinafter Bearden)

As per claim 39, Bearden teaches a computer program product for consolidating broadband network performance and comprising computer-executable instructions for causing a computer to:

-periodically collect a cable modem hour metric for lower-level elements of a broadband network (Paragraph 89)(Paragraph 90)(Paragraph 84);

-use the cable modem hour metric to determine amounts of time that the lower-level network elements are degraded for a plurality of performance issues (Paragraph 84)(Paragraph 89)(Paragraph 90)(Paragraph 96);

-for each issue, combine the amounts of time that lower-level network elements are degraded to determine cumulative amounts of time of degraded lower-level network element performance (Paragraph 196)(Paragraph 197)(Paragraph 198)(Fig. 15)

-combine the cumulative amounts of time of degraded lower-level network element performance into cumulative amounts of time of degraded lower-level network performance for groups of related issues (Paragraph 196)(Paragraph 197)(Paragraph 198)(Fig. 15)(Fig. 19A-B)(Fig. 20A-C)

-combine the cumulative amounts of time of degraded lower-level network performance for groups of related issues into cumulative amounts of time of degraded network performance for higher level network elements, the higher-level network elements comprising the lower-level network elements (Paragraph 196)(Paragraph 197)(Paragraph 198)(Fig. 15)(Fig. 19A-B)(Fig. 20A-C).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 28,33,35, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Grabelsky et al. U.S. Patent # 6,678,250 (hereinafter Grabelsky) in view of

Bearden et al. U.S. Patent Publication # 2003/0086425 (hereinafter Bearden)

As per claim 28, Grabelsky teaches the system of claim 27, but fails to teach

further comprising: the network apparatus configured to obtain cable-modem hours

metrics for at least a portion of the broadband network; and the data-processing

apparatus configured to combine cable-modem hour metrics for lower topological levels

of the network into a cable-modem hour metric for the higher topological level of the

network. Bearden teaches the network apparatus configured to obtain cable-modem

hours metrics for at least a portion of the broadband network (Paragraph 84)(Paragraph

89)(Paragraph 90); and the data-processing apparatus configured to combine cable-

modem hour metrics for lower topological levels of the network into a cable-modem

hour metric for the higher topological level of the network (Paragraph 196)(Paragraph

197)(Paragraph 198)(Fig. 15)(Fig. 19A-B)(Fig. 20A-C). It would have been obvious to

one of ordinary skill in the art at the time of applicant's invention was made to implement

Bearden's teaching in Grabelsky's teaching to come up with combining cable modem

hours metrics for lower level into higher levels of the network. The motivation for doing

so would be because to find out the overall degradation in the network over a time period instead of each particular levels.

As per claim 33, Grabelsky teaches the system of claim 27, but fails to teach further comprising: the data-processing apparatus configured to combine cable-modem hours for lower topological levels of the network into a level of non-degraded or degrade performance for the higher topological level of the network. Bearden teaches the data-processing apparatus configured to combine cable-modem hours for lower topological levels of the network into a level of non-degraded or degrade performance for the higher topological level of the network (Fig. 19A-B)(Fig. 20A-C)(Paragraph 233)(Paragraph 234)(Paragraph 235)(Paragraph 236). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Bearden's teaching in Grabelsky's teaching to come up with combining cable modem hours for lower level into higher levels of non-degraded or degraded performance. The motivation for doing so would be because to find out the overall degradation in the network over a time period instead of each particular levels.

As per claim 35, Grabelsky teaches the system of claim 34, but fails to teach further comprising: the first-metric determining means for manipulating the raw data to periodically determine cable modem hours for lower topological layers of the network, the cable modem hours for lower topological layers each assigned a level of degradation over time period; and the combining means for combining the cable modem hours for lower topological layers into cable modem hours for higher topological network layer, the cable modem hours for the higher topological layer assigned a level of

degradation that results from combining the levels of degradation for the lower
topological layers over the time period.

Bearden teaches the first-metric determining means for manipulating the raw
data to periodically determine cable modem hours for lower topological layers of the
network, the cable modem hours for lower topological layers each assigned a level of
degradation over time period (Paragraph 197)(Fig. 19A-B)(Fig. 20A-C); and the
combining means for combining the cable modem hours for lower topological layers into
cable modem hours for higher topological network layer, the cable modem hours for the
higher topological layer assigned a level of degradation that results from combining the
levels of degradation for the lower topological layers over the time period (Paragraph
197)(Fig. 19A-B)(Fig. 20A-C).

It would have been obvious to one of ordinary skill in the art at the time of
applicant's invention was made to implement Bearden's teaching in Grabelsky's
teaching to come up with combining cable modem hours for lower level into higher
levels of the network. The motivation for doing so would be because to find out the
overall degradation in the network over a time period instead of each particular levels.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure.

A). "Method for setting and displaying performance thresholds using platform
independent program" by Hoyer et al. U.S. Patent # 6,339,750.

8. A shortened statutory period for response to this action is set to expire 3

(three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the applicant (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is (571) 272-4066. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP

ZARNI MAUNG
ERVISORY PATENT EXAMINER